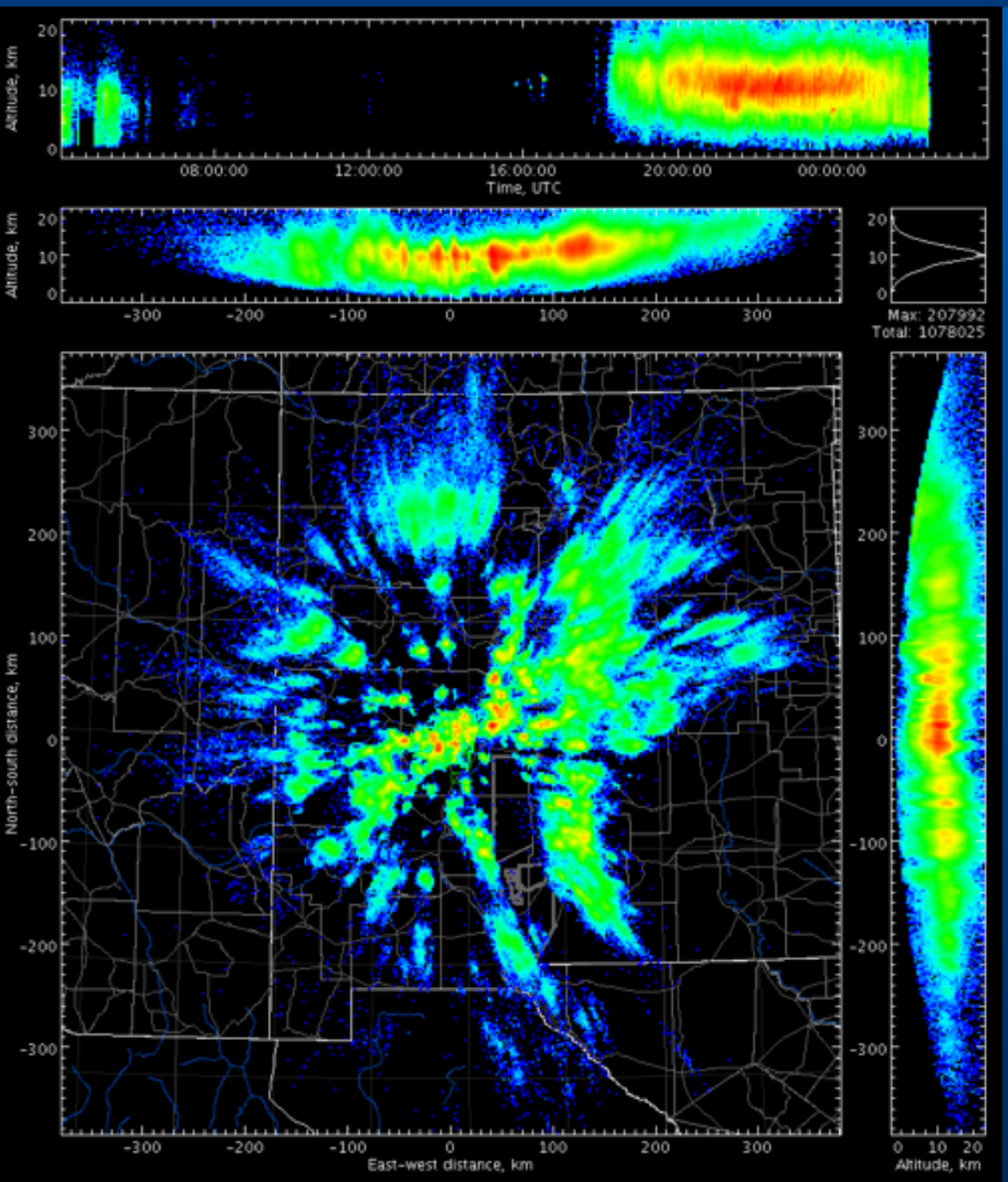
LiveLMA & Real-Time LMA



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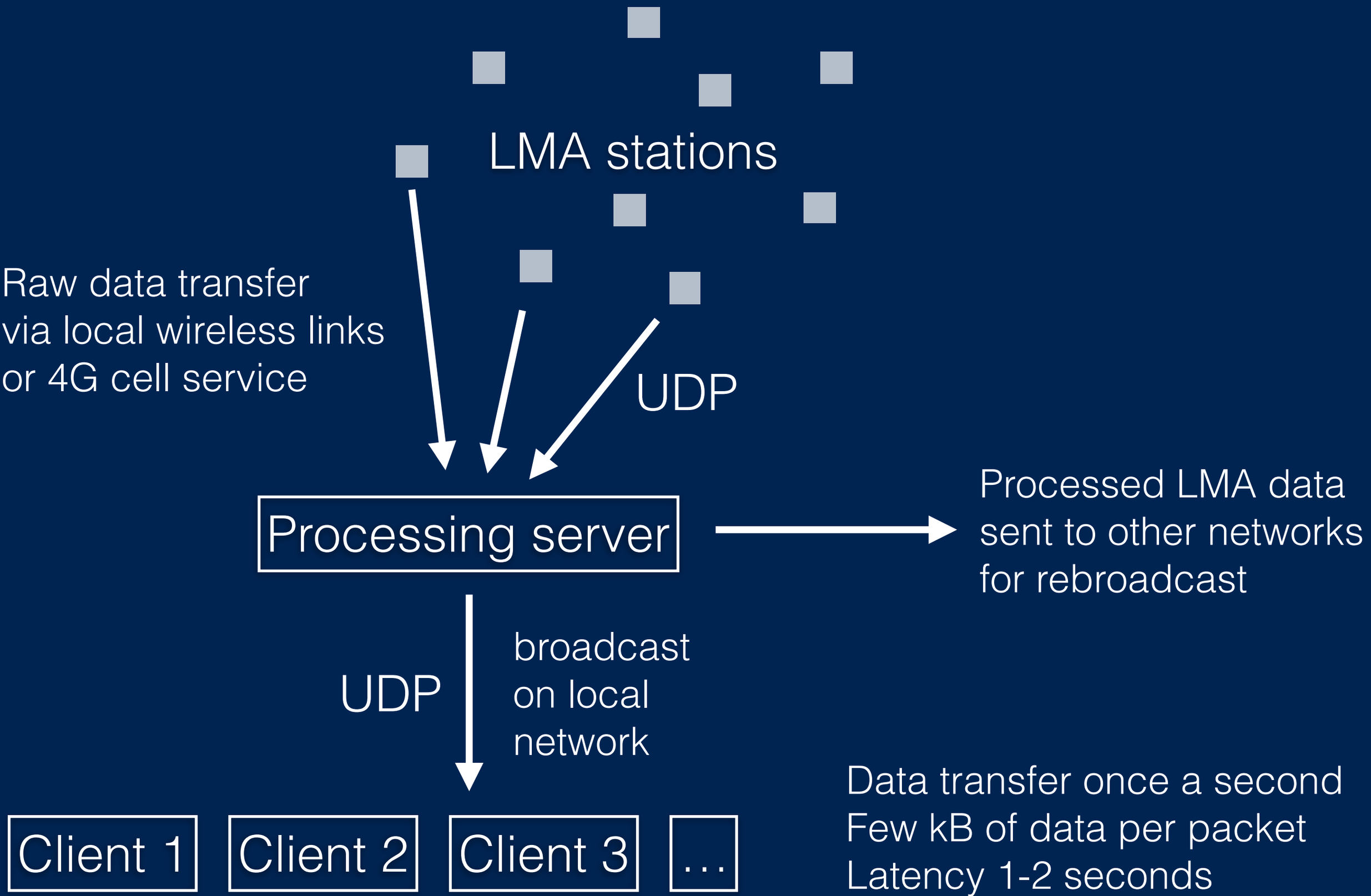
LiveLMA

LiveLMA processing diagram



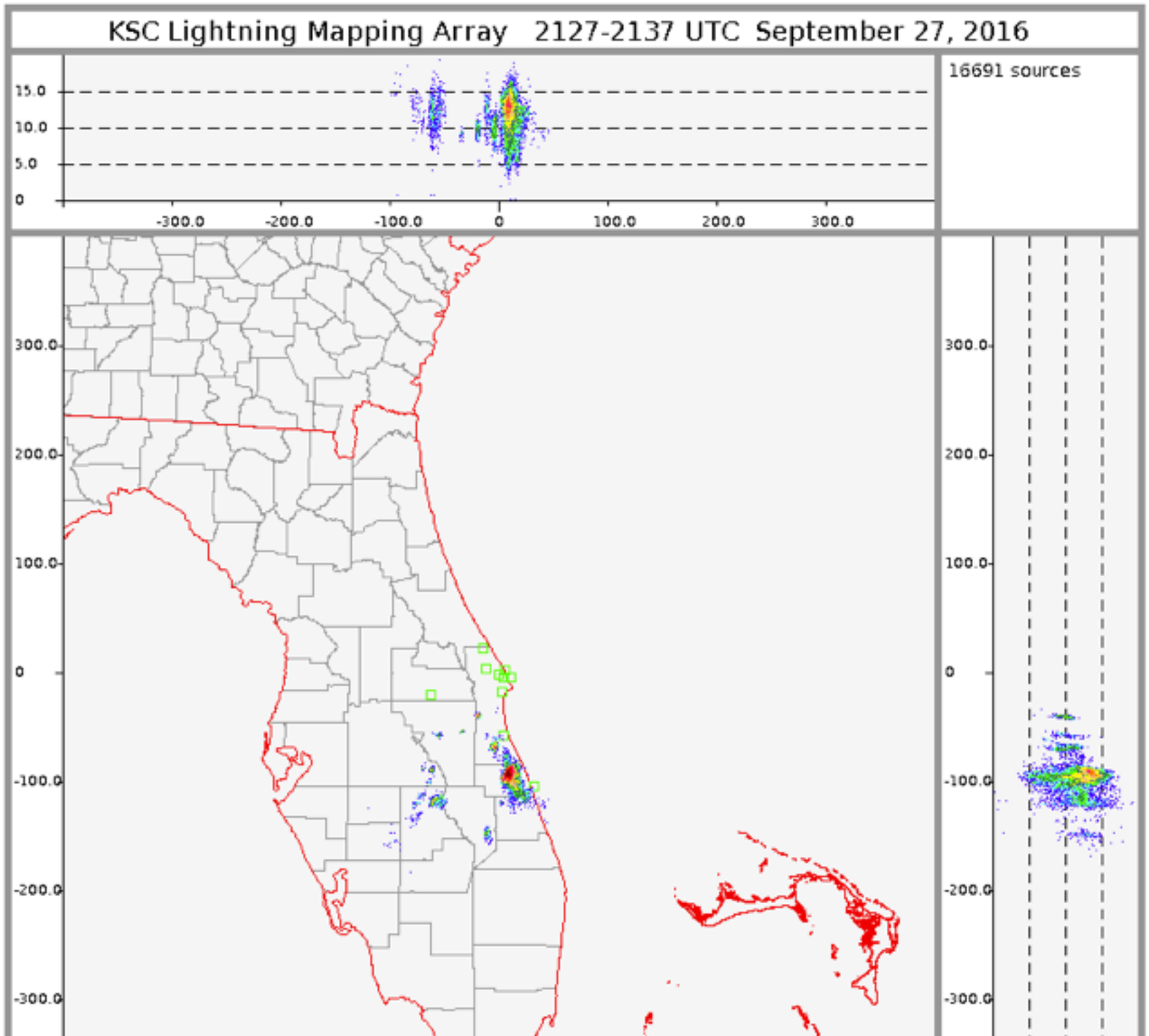
Data transfer once a second
Few kB of data per packet
Latency 1-2 seconds

	LiveLMA	Web-based Real-Time
Processing	By second	By minute
Data latency	< 2 seconds	< 1 minute
Network	Fast (packets)	Regular; File-based
Strengths	Interactive Source Power Source Filtering	Robust Works everywhere

KSC LMA Current 10-Minute Density Plot

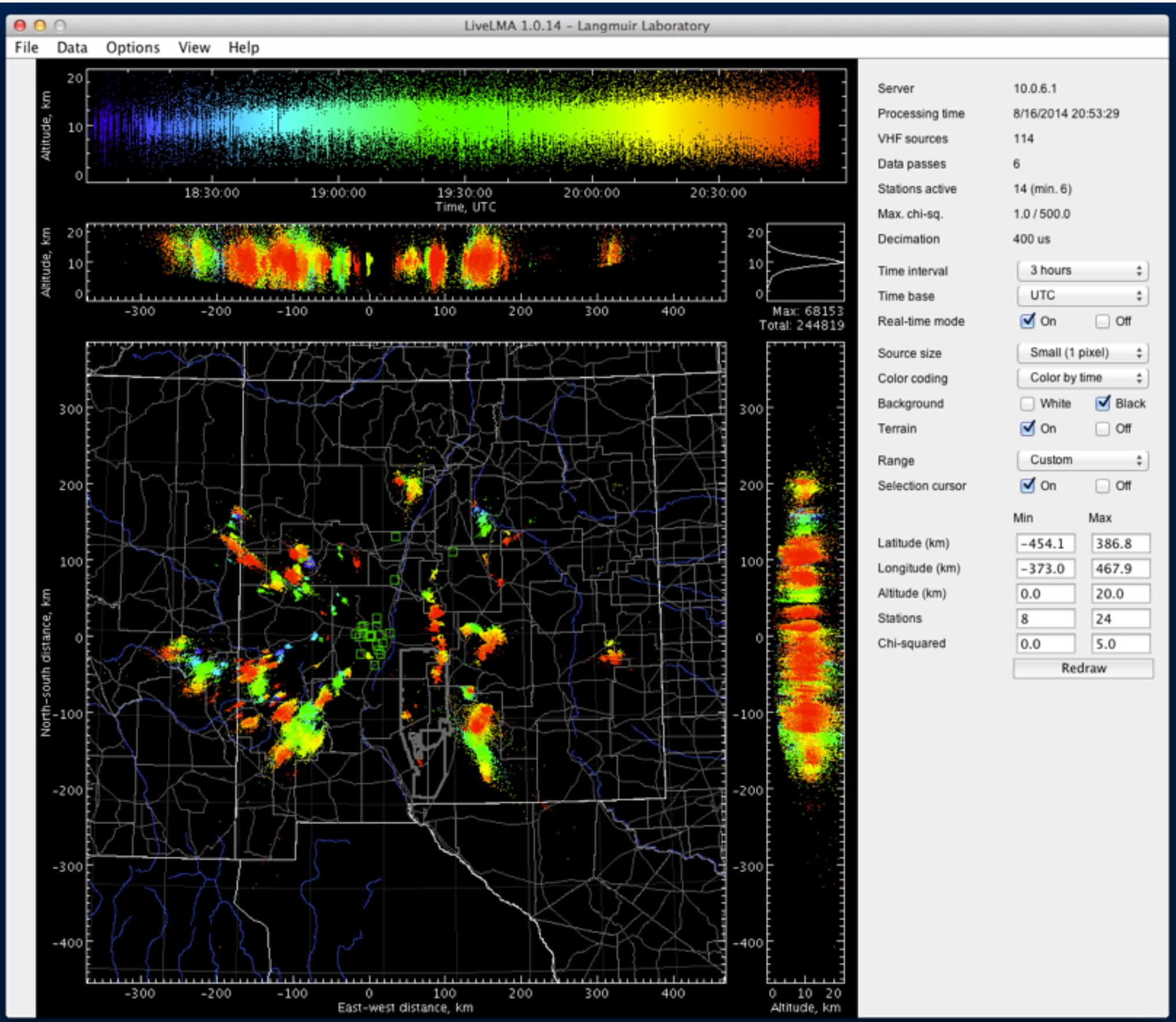
10-Minute Density 10-Minute Points 2-Minute Points 2-Minute Points (color by points)

Zoom 1 Zoom 2 Zoom 3



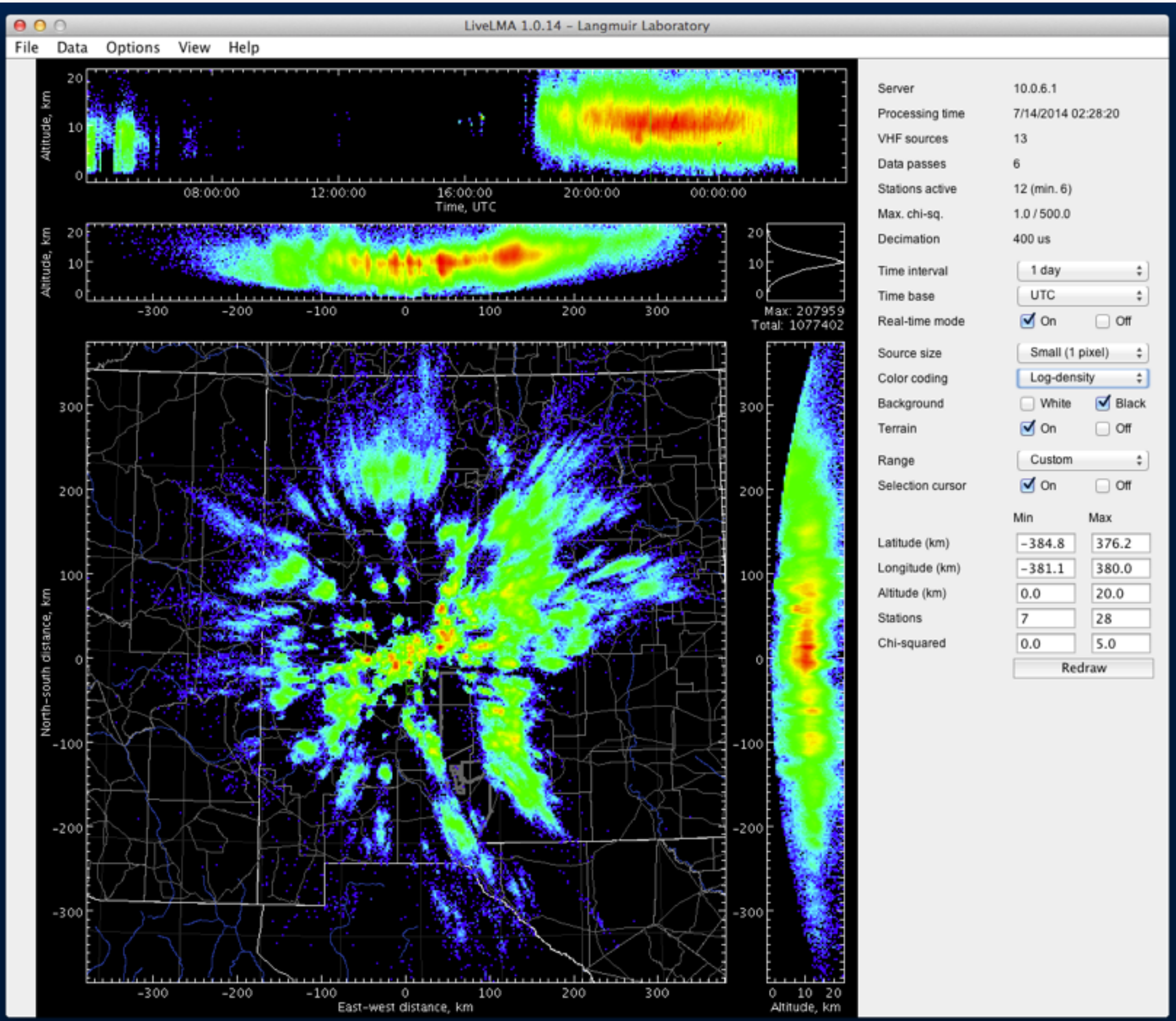
LiveLMA

LiveLMA viewer



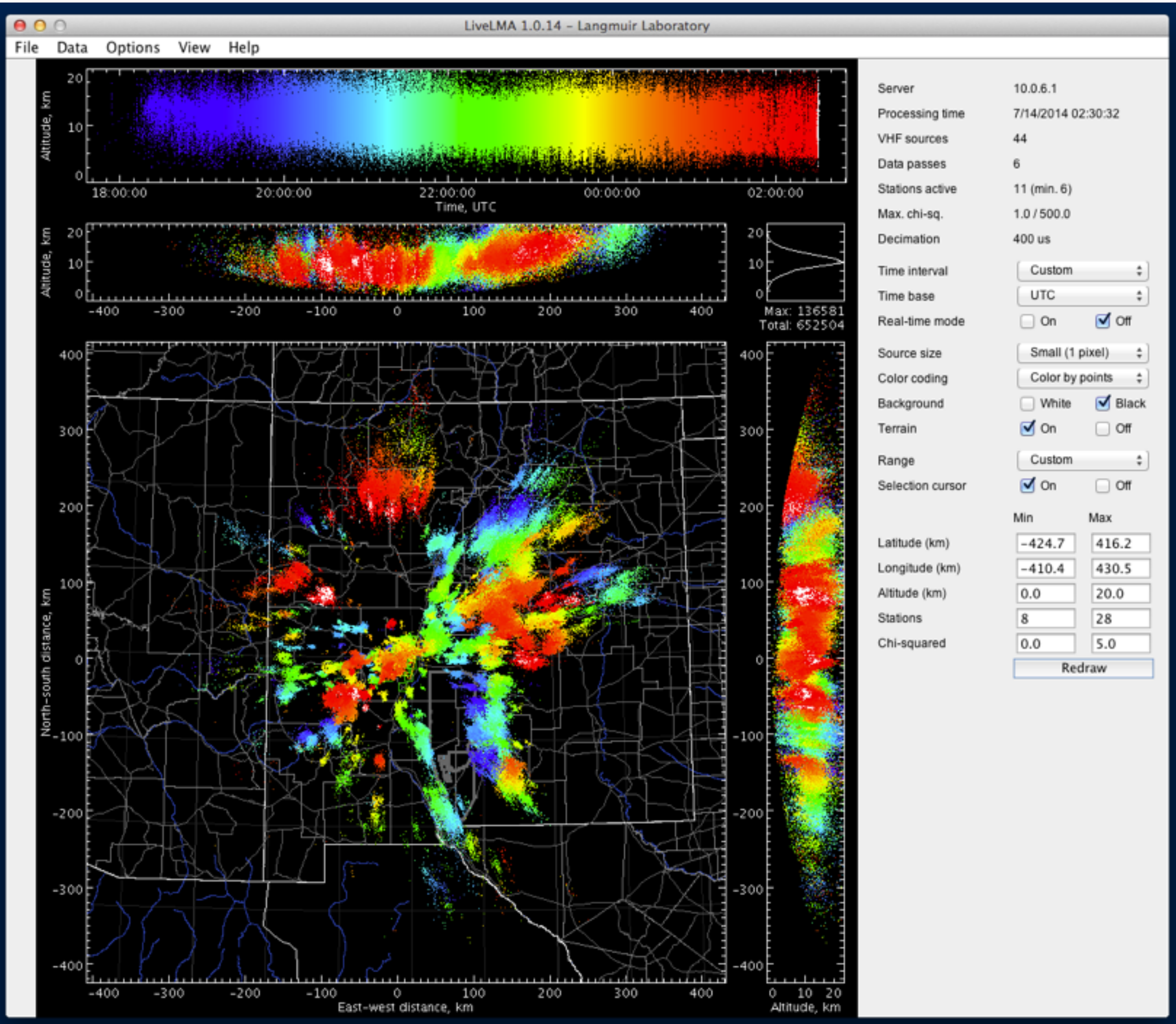
LiveLMA

LiveLMA viewer (density plot)



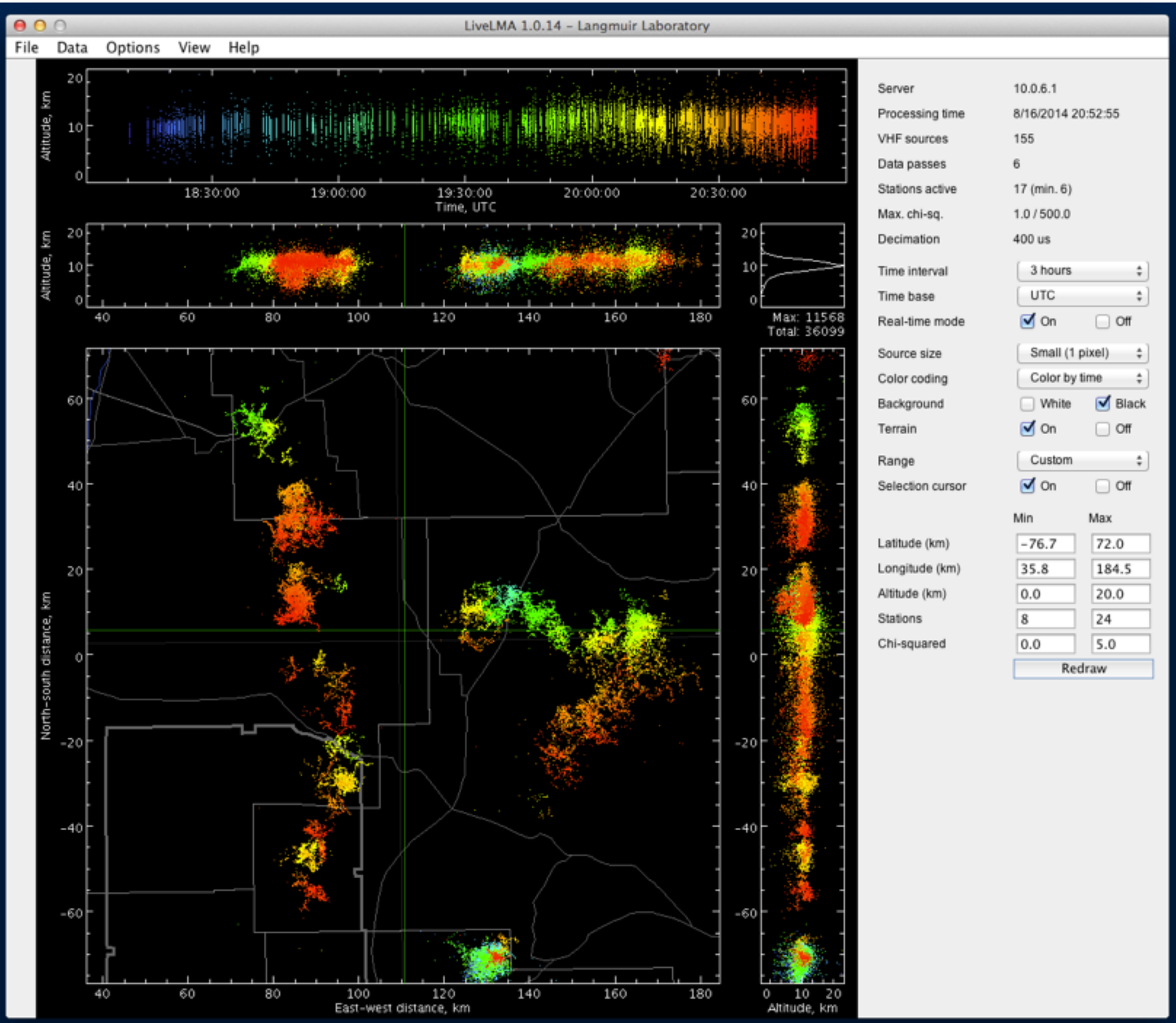
LiveLMA

LiveLMA viewer



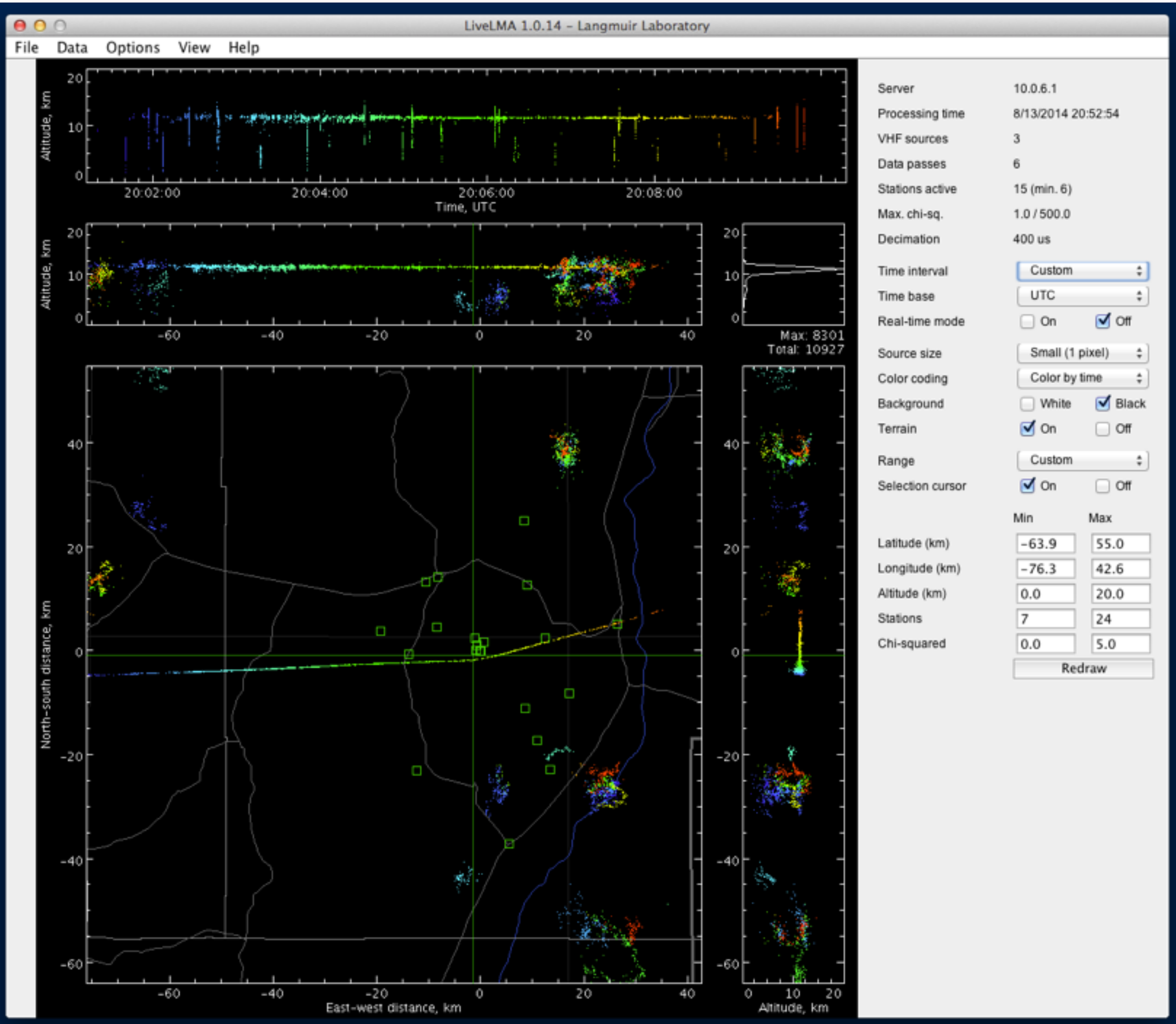
LiveLMA

LiveLMA viewer



LiveLMA

LiveLMA viewer (airplane track)



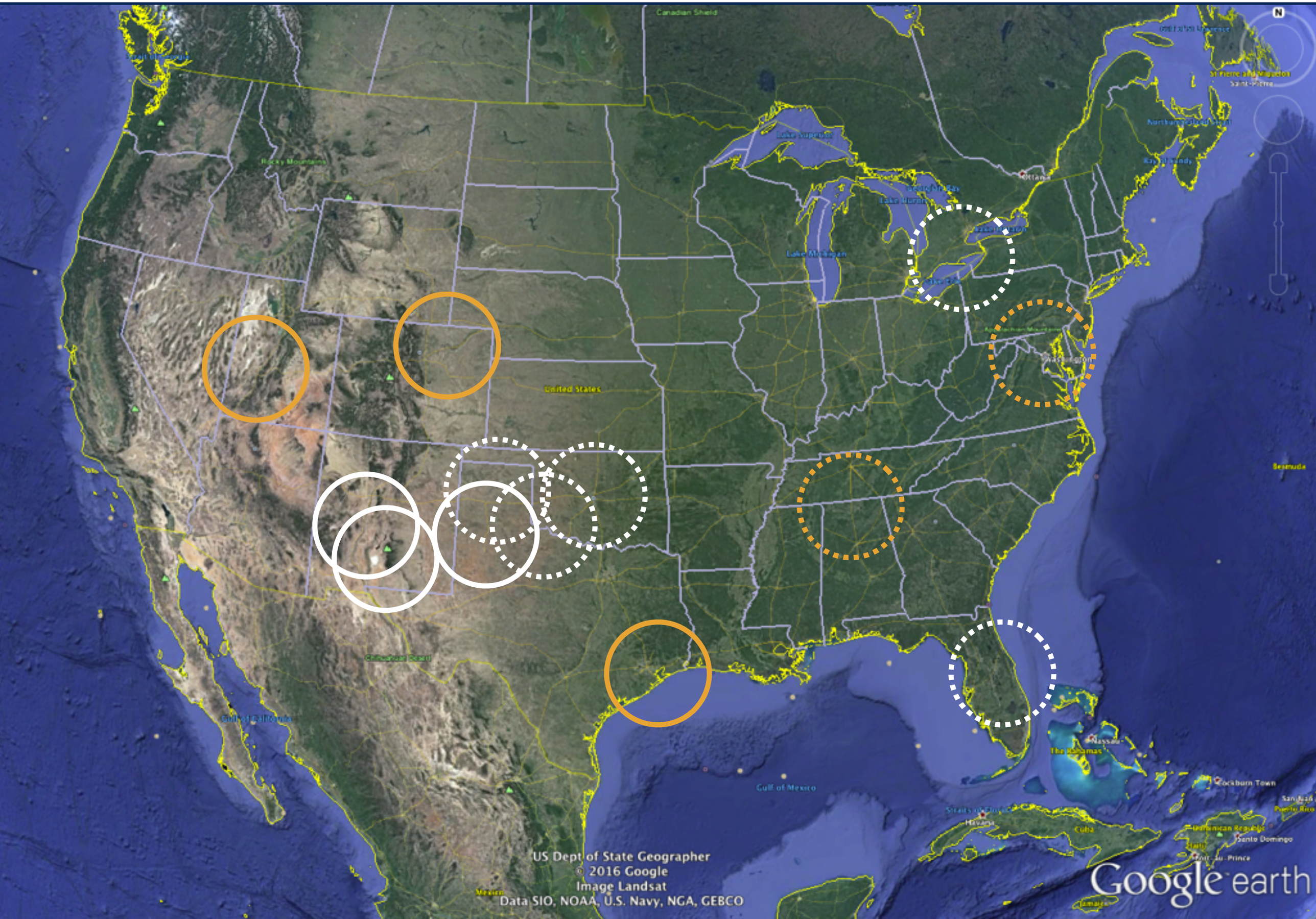
Combined network processing
for larger areal coverage (~500 km radius)

TTU + OK + SW-OK + Pantex LMA testbed

Mobile LMA networks
- Rapidly deployable
- RF-quiet design
- 4G cell service

LiveLMA

Real-Time LMA Networks



LiveLMA viewer uses layered drawing:

Straightforward to overlay and turn on/off
other data products, such as:

- GLM
- NEXRAD
- Strike locations (NLDN, WWLLN, etc)

Also feasible with web-based real-time LMA data!

LiveLMA and web-based real-time data allow for real-time comparison between GLM and 3D LMA data for various storm situations, types of flashes

GLM & real-time LMA:

Overlay GLM data at flash level
Comparisons per flash type (IC, -CG, +CG)

GLM & LiveLMA:

High time resolution comparison of GLM & LMA
Flash processes:
dart leaders, K leaders, stepped leaders
effects of source altitude

LiveLMA

DEMO